

1 1. A method of eliciting in a vertebrate a protective immune response against a
2 bacterium of the genus *Chlamydia*, the method comprising administering to the vertebrate
3 a composition comprising a carrier group coupled to an oligosaccharide obtained from a
4 chlamydial glycolipid, the composition being administered in an amount sufficient to
5 elicit a protective immune response against the member.

1 2. The method of claim 1, wherein the chlamydial glycolipid is glycolipid
2 exoantigen.

1 3. The method of claim 1, wherein the carrier group is coupled to the
2 oligosaccharide by a linker.

1 4. The method of claim 3, wherein the linker is 2-(4-aminophenyl)ethylamine.

1 5. The method of claim 1, wherein the carrier group is coupled to a mixture of
2 oligosaccharides obtained from the glycolipid.

1 6. The method of claim 5, wherein the mixture of oligosaccharides comprises
2 oligosaccharides having a molecular weight of from 800 to 3000 daltons.

1 7. A composition comprising a carrier group coupled to an oligosaccharide
2 obtained from a chlamydial glycolipid.

1 8. The composition of claim 7, wherein the glycolipid is GLXA.

1 9. The composition of claim 7, wherein the carrier group is coupled to the
2 oligosaccharide by a linker.

1 10. The composition of claim 9, wherein the linker is 2-(4-
2 aminophenyl)ethylamine.

1 11. A method of purifying a chlamydial glycolipid, the method comprising
2 providing an aqueous composition that has been in contact with cells infected with a
3 bacterium of the genus *Chlamydia*, the aqueous composition comprising a chlamydial
4 glycolipid; centrifuging the composition for at least 2 hours at 100,000 g or more to form
5 a pellet comprising the chlamydial glycolipid; and collecting the pellet, thereby purifying
6 the chlamydial glycolipid.

1 12. The method of claim 11, further comprising centrifuging an aqueous mixture
2 at 8000 g or less to produce the aqueous composition.

1 13. The method of claim 11, further comprising resuspending the pellet in a
2 reaction mixture and digesting the reaction mixture with DNase, RNase, and
3 proteinase K to form a digested mixture.

1 14. The method of claim 13, further comprising subjecting the digested mixture
2 to affinity chromatography using a monoclonal antibody against chlamydial glycolipid
3 exoantigen.

1 15. A purified chlamydial glycolipid exoantigen, wherein the purified chlamydial
2 glycolipid exoantigen is free of other components as determined by sodium
3 dodecylsulfate gel electrophoreses and silver staining.

1 16. A method of eliciting in a vertebrate a protective immune response against a
2 bacterium of the genus *Chlamydia*, the method comprising administering to the vertebrate
3 a composition comprising a carrier group coupled to an oligosaccharide corresponding to
4 a chlamydial glycolipid, the composition being administered in an amount sufficient to
5 elicit a protective immune response against the member.

1 17. A composition comprising a carrier group coupled to an oligosaccharide
2 corresponding to a chlamydial glycolipid.